



**International Federation of Library Associations
and Institutions**

**Preservation and Conservation
Section**

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NEWSLETTER

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complex course of events. On March 3, the City Archive of Cologne in Germany collapsed after a landslide accident connected to the construction of a subway. Just outside the archives an approximately 40 metre deep hole was dug out to facilitate building the tunnels for two tracks. Cologne is beautifully situated on the Rhine, a reminder of the huge amounts of water just slightly more than 400 metres from the archives. Groundwater was pumped out of the building site and eventually this resulted in a hydraulic heave in the cavity, literally causing the earth under the archives building to sink. Two persons were killed in the accident and many more could have suffered the same fate had they not been rushed out of the archives just minutes before the collapse. One part of the building fell to its side and the other part sank into the ground leaving one of the most important archives of Europe in the huge rubble of bricks and mortar. After a long search for the two victims of the collapse, rescue and conservation work of the collection could begin with volunteers from all over Germany and many other countries, among them Austria, Belgium, the Netherlands, Switzerland and Sweden. I myself had the opportunity to go there for a hands-on session of four days where it once again became obvious that one of the big issues of dealing with a disaster is logistics- how can one find the space, the trucks, the rain protection, the carts and the people willing to help. The international Blue Shield has shown itself to be an effective partner for finding the help needed.

What could be saved and what will be gone forever? At this point it is much too early to assess the permanent damage but an archives containing documents from the 10th century up to today. That collapse will of course have huge damage to the Archive's contents and many items will probably be lost forever. Among the records buried under the

Message from the Chair



By Per Cullhed
Chair, IFLA Preservation and
Conservation Section
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Dear Colleagues, through the years the IFLA- Preservation

and Conservation section has dealt with issues concerning disaster management, disaster mitigation and the conservation of disaster damaged objects. In Berlin in 2003 we had a satellite conference on the issue which resulted in the book *Preparing for the Worst, Planning for the Best: Protecting our Cultural Heritage from Disaster*, edited by Johanna Wellheiser and Nancy Gwinn. Every disaster has its own

bricks are the archives of the Nobel laureate Heinrich Böll, the important Post World War II German Chancellor Konrad Adenauer and the Composer Jacques Offenbach.

This disaster shows the overall importance of disaster management and disaster mitigation. I hope to be able to come back and comment on this issue in the future, when the rescue work has finished and the conservation work must begin. We may all have a lot to learn.

During winter, a special discussion group was formed under the auspices of the Preservation and Conservation Section. It is the Environmental Sustainability and Libraries SIG led by Veerle Minner Van Neygen and Vincent Bonnet. More on that in the newsletter, but the concerns for how environmental changes can affect library collections is growing, so from our point of view, this topic is important, especially in relation to disaster scenarios such as the fires in Australia.

We are all looking forward to the big events in Italy in August and September. During the main conference we will have a joint session with the Rare Books and Manuscripts Section and the Library History Section on dispersed cultural collections preservation, reconstruction and access. The programme schedule is online.

The post conference arranged by the section and the IFLA PAC Core Programme will be held at the Istituto Centrale per il Restauro e la Conservazione del Patrimonio Archivistico e Librario on August 31 - September 2. The programme will contain two blocks of presentations, one from the Vatican Library and the other from the Istituto Centrale per il Restauro e la Conservazione del Patrimonio Archivistico e Librario. On day two, there will be one session on robotic scanning and a second session on preservation issues connected to the exhibiting of cultural heritage materials. The programme and instructions for registration will be posted on the IFLANET shortly.

“Libraries create futures: Building on cultural heritage”

August 23-27, 2009, Milan, Italy

<http://www.ifla.org/IV/ifla75/index.htm>

A Selection from the Satellite Meetings

Conservation and preservation of library material in a cultural-heritage context

August 31 - Sept 1, 2009

Istituto centrale per il restauro e la conservazione del patrimonio archivistico e librario, Rome, Italy

Contact person: Per Cullhed, per.cullhed@ub.uu.se
Sponsor: IFLA Preservation and Conservation Section

Co-sponsor: IFLA Preservation and Conservation Programme (PAC)

The present becomes the past: harvesting, archiving and presenting today's digitally produced newspapers

August 19-20, 2009

Royal Library, Stockholm Sweden

Contact person: Ed King, ed.king@bl.uk

Audience: newspaper publishers, libraries/librarians, archivists, software providers

Sponsor: IFLA Newspapers Section

Co-sponsor: IFLA Preservation and Conservation Programme (PAC)

Early printed books as material objects

August 19-21, 2009

Bayerische Staatsbibliothek, Munich, Germany

Contact person: Bettina Wagner, bettina.wagner@bsb-muenchen.de

Sponsor: IFLA Rare Books and Manuscripts Section

Co-sponsors: Deutsche Forschungsgemeinschaft Bonn, Consortium of European Research Libraries, IFLA Preservation and Conservation Programme (PAC)

Birth of a New IFLA Special Interest Group: Environmental Sustainability and Libraries

Something special happened at the Quebec IFLA 2009 Conference. Somehow, prior interests of several individual conference delegates coalesced with the concerns voiced in the opening speech by



IFLA World and Information Congress 2009

75th IFLA General Conference and Council

IFLA President elect Claudia Lux about sustainability, one of the UN Millennium Development Goals as it relates to libraries. As a result, this small group of delegates started a new IFLA Special Interest Group (SIG). Initiating anything like this in such a large organization as IFLA might appear as a formidable, very formal and a tremendously bureaucratic task for group members. However, it all started quite informally with a piece of paper posted by the author on the bulletin board in the lobby writing anybody who might be interested. Four people showed up for a first quick informal meeting between sessions, in a corridor. Before the conference was over, three days later, the 25 signatures of members needed to start a new SIG had been attached to the formal request document. Three different IFLA Section Heads were approached by email for the required sponsorship. The Preservation and Conservation Section, headed by Per Culhed, agreed to sponsor the group. A few months later, the SIG was formally accepted by IFLA for a term of 4 years, and was allocated a session at the Milan 2009 Conference. The group members represent all continents except Asia. (One of the priorities of the group is to fill that gap as soon as possible). Start-up did require some bureaucratic work from the group, but most of the real load was carried by IFLA staff and officers, and the sponsoring section, which provided great support.

In order to quickly facilitate communication, without waiting for official admission and subsequent setup of a page and mailing list on the IFLA website, co-convenor Vincent Bonnet from the Marseille Alcazar set up an online social network for the group using the Ning application: <http://ecothèques.ning.com>. Startup languages of the site are English and French, hopefully to be complemented soon with at least some of the other IFLA languages. Now there is a new webpage of the SIG on the IFLA website <http://www.ifla.org/en/environmental-sustainability-and-libraries>, where the mission and basic objectives are posted. The actual discussion list is expected to be operational in the late spring; at that point, official online activities of the SIG will transfer to the IFLA website. In the meantime, the new SIG just had its première meeting participating at the Madurodam (The Hague) International Conference <http://www.debibliotheken.nl/content.jsp?objectid=22365> organized by the Dutch Association of Public

Libraries, and was also invited to the June conference of the Association of Caribbean University, Research and Institutional Libraries http://www.adbdp.asso.fr/IMG/pdf_ACURIL_2009.pdf <http://cibernotasacurilcybernotes.blogspot.com> in Guadeloupe. In order to practice sustainable participation at a distance the SIG will probably present by proxy of a local speaker and eventually, Q&A by telephone or web. At the coming August IFLA conference in Milan, three papers will be presented by invited speakers, besides the formal presentation of the group and its agenda. From now to August, member's opinions and ideas will be surveyed in order to refine goals and objectives.

The main focus of the new SIG is, as expressed in its mission statement, based on the advocacy of sustainable development with an emphasis on the environment, a global core concern, for and by libraries. The mission is intended to be achieved by striving to reach several objectives, which can be summarized as: implementing environmentally sound practices in libraries, assessing possible impacts of the climate crisis on libraries (in terms of buildings, management, services and collections), raising awareness of library professionals, promoting diffusion of relevant information for users, and identifying documentary resources connected with sustainable development, in support of collection building in all related subject areas.

After these auspicious beginnings, a big job lies ahead: the group now needs to grow and develop its activities, which implies recruiting not only participants in debates and content contributors but also volunteers to share the growing workload of managing the group's activities and its online resources. Participation by all kinds of information professionals, information providers (and other relevant professionals engaged in sustainability-related activities) is encouraged – it is not necessary to be a member of IFLA or other library association. The sustainability SIG aims to be an open forum for all information professionals interested in sustainability, and although environmental aspects are the main drivers of its activities, those can't be dissociated from social and economic aspects. What the new SIG hopes to be able to offer to its members is no less than the benefits of "collective intelligence"

about sustainability, derived from providing the enrichment granted by an international, multicultural perspective, the stimulation of creativity stemming from sharing “different” ideas and experiences about sustainability problems.

Veerle Minner Van Neygen, Ph. D. – Convenor of the SIG, associate professor at the Carlos III University of Madrid and consultant. veerle.minner@yahoo.es



News from IFLA- PAC Core Activity

By Christiane BARYLA,
Director

IFLA-PAC Cycle “Preservation and the four elements”, 2nd conference: “Water Impact on Library, Archival and Museum Materials”, October 29–31, 2009, Prague, Czech Republic

The conference is the second part of a four-conference cycle initiated by IFLA-PAC Core Activity, focused on cultural heritage preservation and the four elements, Air, Water, Fire and Earth. The first conference on Air was held at the Bibliothèque nationale de France on March 5-6, 2009 (see report page 6). The second one, to be held in Prague, is dedicated to the possible dangers from water. Earthquakes, floods, winds and fires demonstrated their destructive power recently in Burma and in China just to remind us that disaster planning is not what you are planning for, but rather how we are prepared to overcome its consequences.

Program

The National Library of the Czech Republic and the National Archives of the Czech Republic in cooperation with IFLA-PAC are issuing the call for papers for the forthcoming conference on water damage to the collective materials from museum, archives and library collections. During the conference the following aspects will be discussed:

- Preparedness for the disaster to come, on the level of an individual institution as well as on the level of central and local administrations and their mutual cooperation.
- Rehabilitation of damaged items – drying cleaning, fumigating, storing.

- Rehabilitation of the water damaged premises; buildings: drying, cleaning fumigating.
- Learning from the experience: an international cooperation, creation of conservation crisis centers and quick intervention units on international bases.

A detailed program will be available soon.
The Conference fee will be 100 EUROS.
More information at:
<http://www.ifla.org/VI/4/pac.htm>

Contact:
Jurek.Stankiewicz@nkp.cz, water2009@nkp.cz

Training in “Preventive Conservation in Libraries and Archives of French-speaking West Africa”, 5-9 January 2009, Porto-Novo, Benin

In January the PAC Core Program organized, training in preventive conservation in Porto-Novo, Benin with the support of Sida (Swedish International Development Cooperation Agency - www.sida.se) via the IFLA-ALP programme (Action for Development through Libraries programme). We warmly thank Birgitta Sandell and Gunilla Natvig for their support and advice. UNESCO also helped finance the project through its local centre, while EBSCO provided logistical support. Trainees came from Senegal, Ivory Coast, Benin, Togo, Mali, Burkina Faso, and Niger.

This was the first time the PAC organized an on-site training, close to the preservation premises and in the local conditions our African colleagues are facing (climatic, politic, economic...). Nineteen librarians and archivists from 7 countries attended.

What was important too was the use of trainees’ language, French. The African continent is divided into three main linguistic areas (English, French, and Portuguese). The PAC has two regional centres, one in South Africa for English-speaking countries and one in Benin for French-speaking countries. Training courses have been organized in South Africa and Namibia for the English-speaking area, notably by our colleague Johann Maree, as well as in the Portuguese-speaking area by Maria Luisa Cabral. It was the first time training was proposed in French even though there are 17 French-speaking countries in Sub-Saharan Africa. We benefited in Benin from the local support of the director of the regional PAC centre, Francis Zogo, and of the National Library.

This training was held at the Ecole du Patrimoine Africain in Porto-Novo, which is usually involved in training for museums, from which some of our trainees came. This was another striking aspect of

the training course: it allowed archivists, librarians and museum curators to meet and discuss issues of preventive conservation.

Group photo at the end of the training



From left to right, first rank: Raphaël Kompaore, Christiane Baryla, Umar Diawara, Ngoné Sarr, Colette Gounou, Chantal Adjiman, Francis Marie –José Zogo, Atsu Yao Esabuè Odzukpa; **second rank:** Léontine Aballo, Anne-Marie Odounharo, Sabi Tchagaffo, Rasmata Boungou, Ousmane Maman Idi, Gouro Venance Bahi; **third rank:** Abdourahmane Lô, Garbah Traore, Serigne Ndiaga Djahate, Jean-Marie Arnoult, Mamadou Konoba Keita, Urbain Hadonou.

The training was a success, because it was not a “one-way” learning but exchange of experience ejoyv were very fruitful between trainees and organizers. This first experience should lead to more specialized training courses on audiovisual archives, building and sustainable development. There are many other topics to deal with!

Further information on PAC activity at:
<http://www.ifla.org/pac>



Information Updates

Digital Preservation Europe (DPE): YouTube Preservation Animations Released

As many of you may know Digital Preservation Europe (DPE) is committed to making digital preservation materials available to the widest possible audience and to breaking down barriers to access. The release of a new series of short animations introducing and explaining digital preservation problems and solutions for the general public marks an important step toward reaching this goal. The first animation is now ready for viewing at <http://www.youtube.com/watch?v=pbBa6Oam7-w>

These cartoons encapsulate complex digital preservation issues and problems and explain them in a funny and easy to follow plot. Please feel free to make use of these animations as part of your own work to raise awareness and understanding about digital preservation. Future animations will be released on the YouTube Channel at <http://www.youtube.com/user/wepreserve>. To learn more about DPE or to access our suite of preservation resources and tools, please go to <http://www.digitalpreservationeurope.org>.

Please send this link to your friends, colleagues and students.

Mrs Emily Nimmo
HATII Preservation Resources Officer

National Heritage Science Strategy

In 2006 the UK House of Lords Science and Technology select committee published an inquiry report on science and heritage. One of the recommendations of that report is the development of a national strategy for heritage science. Since October 2008, a project has been underway to produce this strategy, which will be underpinned by three reports currently in preparation. The first of these reports has been completed and can be downloaded from the document library section of the National Heritage Science Strategy website, see www.heritagesciencestrategy.org.uk <<http://www.heritagesciencestrategy.org.uk/>>. The other two reports and the strategy itself will be available later in the year.

This report focuses on the role that science plays in the management of the UK's heritage, and makes suggestions about where increases in understanding could improve current practice. Specific issues include the need for further investigation of the rate of decay and thresholds at which decay processes are initiated for a range of materials; the need for improved management of environments for display and storage and long term survival of heritage assets; and recommendations for additional development of assessment and monitoring tools and improvements in access to information and equipment.

The report will be available on the NHSS website for the duration of the strategy development. The project is keen to receive views on the report and if you want to comment please do so by the end of May 2009. There is a response form available online which you can use to feed back your comments on the report.

The comments provided will be summarised in a report made available on the NHSS website, and although the report will not be updated as a result of the comments, the summary of responses will be used as part of the evidence base when the strategy is produced.

As part of the strategy development, there will be a stakeholder meeting held towards the end of November and there is a section on the response forms for potential participants to register their interest in attending this meeting. If you would like any further information about the strategy, the first report, or the stakeholder meeting, please contact the strategy coordinator Jim Williams at nhss@english-heritage.org.uk <<mailto:nhss@english-heritage.org.uk>>



In case you missed it

“In and Out Air Strategies. From Climate Change to Microclimate. Library, Archives and Museum Preservation Issues.” Organized at the Bibliothèque nationale de France by IFLA-PAC Core Activity. March 5-6, 2009. Paris, France.

The IFLA-PAC is organizing a cycle of international conferences arranged around the four classic elements of air, water, earth and fire. The conferences aim to examine the chosen element's impact on preservation issues affecting libraries, archives and museums. For the inaugural conference, held at the Bibliothèque nationale de France's (BnF), Mitterand site, the IFLA-PAC selected air. Over two days, March 5th and 6th, 2009, the conference participants heard presenters from France, Italy, the United Kingdom, Spain, Canada and the United States discuss their research, projects, and products related to air quality. The presentations were delivered during sessions slated under one of four general categories: climate change and cultural heritage; microclimate and indoor air quality in cultural heritage institutions; air management; and, air research and development.

Beginning with a colorfully visual and foundational talk on global climate change by Robert Kandel, emeritus CNRS Laboratory of Dynamic Meteorology senior scientist, the initial session on climate change and

cultural heritage was moderated by Valérie Vesque-Jeancard, Deputy CEO of the BnF. Carlotta Grossi from the University of East Anglia described the Noah's Ark project that focuses on the climatic parameters that damage built cultural heritage and has resulted in a vulnerability atlas projecting future potential damage. Pierre Bessemoulin, President of the UN World Meteorological Organization Commission on Climatology reported on the Data Rescue project (DARE) that revealed the importance of rescuing climate data. Elizabeth English explained the pattern of air flow around and over buildings as an introduction to wind, and roof pebble, damage incurred as a result of hurricane Katrina.

The second session moved to the narrower perspective of microclimates and indoor air quality in cultural heritage institutions, starting with a discussion by Thi Phuong Nguyen, BnF, and Michel Dubus, Center for Research and Restoration of Museums of France, of the air quality in storage areas. This presentation was followed by the British Library's Velson Horie's report on current research being carried out to determine the volatile organic compounds present in books and paper. Roger-Alexandre Lefèvre, Professor Emeritus, Paris XII, employed photos and examination of the Louvre's statue of Apollo as a record of Parisian air pollution's soiling effects over the last century and a half. Then describing the Cour Marly's microclimate, he concluded that even with its relatively unstable conditions, the sculptures exhibited in the space are not in danger of rapid soiling. The afternoon's final talk by Brigitte Leclerc and Caroline Laffont, engineers in the BnF's Laboratory of Conservation Department, disclosed the effects of construction materials, room climate and light sources, among other factors on the air quality in display cases.

The second morning began with remarks from Christiane Baryla, Director IFLA-PAC Core Activity, who introduced the PAC's publications in emergency planning and prevention, and its training program. The audience was encouraged to subscribe to the PAC's listserv and contribute to its publications. She introduced the conference's third session on air management that opened with Jean-Marie Arnoult's review of standards in conservation and preservation. The inspector-general emeritus of libraries pointed out that there are few specific standards for preservation and few documents that discuss them. International standards are based on consensus, a general agreement characterized by a lack of absolute disagreement, and can lead to puzzlement in translation and furthermore may not be applied in certain situations, in the building of libraries and

archives for example. In addition, changes such as the current development of sustainability criteria with regards to air conditioning render standards outmoded. Collecting accurate data to support standards is important.

A round table following Arnoult's remarks further addressed issues of air management and standards. Chemist Tim Padfield argued that standards can be confused with the reality of what can and should be done, identifying facilities holding satisfactorily maintained paper based collections, though the standards for relative humidity and temperature stability have not been met. Thi Phuong Nguyen proposed that the BnF's practice of lowering the relative humidity of new air in storage areas can result in energy savings. Bruno Bonandrini, also from the BnF, followed with his research on relative humidity and temperature and the cost of heating. Isabelle Formont discussed a survey of the BnF's storage area environmental conditions that revealed more stability in the towers than in the base structure due to less air movement that is caused by opening doors. Jean-Luc Bichet, an architect at the French National Archives, gave an overview of the challenges related to ventilation and air quality in designing and constructing the new Archives facility. Lastly, France Saïe Belaïsch, a Directorate of Archives of France architect, presented information on archive facilities in France and how their architecture has changed because of the evolving understanding of the importance of climate change and microclimates to preserving archive collections.

The fourth and final session of the conference looked toward the future with presentations on air research and development. Moderator Michelle Agnoko Gunn, Head of the Anoxia Unit at the Quai Branly Museum opened the session's initial presentations on anoxia, as a way of preserving, disinfecting and protecting collections. Fenella France, Library of Congress preservation scientist, described the project to construct a durable anoxic case for a unique historic map, outlining the advantages of this kind of encasement, the challenges to overcome in building it, the design and construction process, and monitoring issues associated with the long term viability of the case. Conservation scientist Nieves Valentin Rodrigo of the Instituto del Patrimonio Cultural de España spoke on the use of a Veloxly (Very Low OXYgen) environment as a means to eliminate insects in cultural collections. Valentin Rodrigo covered the developmental history of this system, its advantages and examples of institutions where it has been used. A case study of Veloxly was provided by Tiziana Blebani, Head of preservation

and restoration at the Biblioteca Nazionale Marciana, who reported on the Biblioteca's experience bagging the library while the nitrogen insect eradication treatment ensued. The last low oxygen presentation discussed the installation of a low oxygen system in the British Library's new conservation center. John de Lucy, The Library's Head of Estates and Facilities, outlined the construction of special fire compartments and smoke detection systems and noted the benefits of this state of the art fire prevention solution.

The afternoon's remaining presenters addressed healthcare and aerospace research applied to cultural heritage. First, Nicolas Loudinet of Airinspace introduced the company's product PLASMAIR, a mobile unit built to decontaminate air and reduce the risk of infection. Initially designed to protect the health of human beings in space, it was modified for medical environments and is now being proposed for other applications, including collection areas. Malala Rakotonirainy, Centre de recherche sur la conservation des collections, then reported on the results of a study implementing PLASMAIR technology in an archive storage room. The unit was found to quickly reduce mold spores and limit risk of contamination though the machine runs continuously to be effective.

IFLA-PAC Core Activity Director Baryla concluded the conference summarizing the presentations and inviting the audience to the next conference in the series. The conference presentations are now online on the IFLA website at:
<http://www.ifla.org/en/news/32>

Kristen Kern
Portland State University

Report on the 23rd Annual NARA Preservation Conference – Digitizing for Preservation and Access: Past is Prologue

**National Archives and Records Administration
Washington, D.C., March 26, 2009**

Conservation, preservation, archival, digital library and digital preservation experts gathered for the National Archives and Records Administration (NARA) Annual Preservation Conference to mark the transition from an experimental and theoretical view of digitization and digital preservation towards a lessons learned perspective through case study and best-practice presentations. In the spirit of the current political climate in Washington, D.C. the presentations were a cumulative call to arms for fresh perspectives on old frames of reference, bold

initiatives with unprecedented levels of digital production and delivery, and guerrilla tactics to deliver digitized content to users. Yes we can digitize, but yes, we can also steward and serve that digital content.

As a follow-up to the 2007 NARA Conference (“Managing the Intangible: Creating, Storing and Retrieving Digital Surrogates of Historical Materials”) which focused on the digitization process and was geared toward institutions just beginning to digitize their collections, the 2009 NARA Conference commenced with a thought-provoking address by keynote speaker Paul Conway (Associate Professor, School of Information – University of Michigan). In a presentation titled “Digitization, Preservation and the Future of the Archive,” Conway encouraged the audience to move past the “limited usefulness of an access-orientated view of digitization” toward a view of digitized collections as significant archival resources unto themselves. These collections, with added capabilities via technical and representational processes, can surpass the research value of the original artifacts. The future of the archive, Conway argued, is transcending reproduction to representation, retrieval to significant uses, and access to preservation. Digitization for preservation means doing archival work in an online environment to create a preservable product worth keeping over time.

In an uncoordinated contrarian response from the trenches, Dan Santamaria (Assistant University Archivist, Mudd Manuscript Library – Princeton University) discussed “guerrilla digitization,” or the on-the-spot digitization and delivery that circumvents the bureaucracy that can weigh down any digitization project. Working on the front lines to respond to often long-distance user requests for specific, item-level digitized content prompts Santamaria to often approach digitization via a “low-rent” / patron request-based model: content requested is content delivered to the user and then to the global audience via the finding aid.

Edward C. Papenfuse (State Archivist and Commissioner of Land Patents, Maryland State Archives) delivered an enumeration of best-practice statements to incite the audience toward better and forward-thinking stewardship of digitized content. His address “the Digital Age” included a provocative case study of “MDLandRec.Net A Digital Image Retrieval System for Land Records in Maryland” which now contains over 190,000,000 indexed images of permanent archival records.

Each year NARA coordinates a compelling schedule of presenters to convey multiple perspectives on an of-the-moment issue, and only a few from the 2009 conference have been discussed herein. Additionally, NARA archives each presentation on their website, allowing those of us who attended to reference these inspiring addresses and those who could not attend to review the fresh perspectives delivered. While the 2009 NARA Preservation Conference presentations were not posted at press time, you can find further information about this and previous conferences on the NARA website: <http://www.archives.gov/preservation/conferences/>

Holly Robertson
Library of Congress



Training paradigms around the globe

This is the second in a new series in the P&C Section Newsletter. (If you would like to share information about training in your country for a future issue please contact the editors.)



Interning at the Library of Congress

By Emily Rainwater

As the final requirement for completing the MSIS with a Certificate of Advanced Study in Conservation, students from the Kilgarlin Center for Preservation of the Cultural Record at the University of Texas at Austin must devote a third year to an internship at a recognized laboratory (<http://www.ischool.utexas.edu/kilgarlin/about.php>). This experience allows them the opportunity to continue expanding their treatment skills through an intense period of hands-on work with a professional supervisor.

For the past six months, I have been the 2009 Harper-Inglis Conservation Fellow in the Rare Book Section of the Conservation Division of the Preservation Directorate at the Library of Congress (<http://www.loc.gov/preserv/conserv.html>). One

outstanding aspect about interning at the Library of Congress is simply being in Washington, DC. The area has a strong conservation community, and frequently there are lectures, tours, and workshops available. The Library of Congress itself hosts lectures throughout the year for the Topics in Preservation Series. The Washington Conservation Guild and the Potomac Chapter of the Guild of Book Workers are quite active, and both offer student/intern membership rates (<http://cool-palimpsest.stanford.edu/wcg/> and <http://cool-palimpsest.stanford.edu/byorg/gbw/> respectively). The Washington Conservation Guild even has an intern coordinator who arranges happy hours and lab tours for interns and fellows throughout the year.

The Library of Congress' internship experience is unique because you are able to work with so many skilled conservators on a broad range of items. I have flattened a German soldier's armband in a World War II scrapbook; helped survey the condition of the library of Susan B. Anthony, an advocate for women's rights and the anti-slavery movement; and repaired the pull-tabs and rivets inside Lothar Meggendorfer's Moving Picture Series, a children's book from 1884 with movable parts. I even got to spend two weeks in the Collections Care Division learning tips and tricks for batch repairing the Library's legion of circulating items (<http://www.loc.gov/preserv/binding.html>). I have also been fortunate enough to watch over the shoulders of the Library's conservators as they work on pieces of history, including a book from Thomas Jefferson's library and the bible that both Lincoln and Obama used to take their oath of office.

My favorite treatment so far has been a recently acquired item from the Music Division consisting of two of George Frideric Handel's printed scores, a first edition Jephtha an Oratorio and The Choice of Hercules. The scores were previously owned by harpsichordist and composer John Wall Callcott (1766-1821) and had been bound together in a half style leather and marbled paper binding. Due to the extremely poor condition of the binding materials, as well as the many examples of similar bindings extant in the collection, the curator wanted a full treatment for the book, including a new case. I washed the pages, placed an alkaline reserve in them, guarded the single sheets into folios, and even made the paste paper used in the new half style leather binding. The most exciting part was soaking off the original paper pastedowns from the old boards so that Callcott's signature and the remnants of several wax seals could be saved and readhered to the new binding.



Emily Rainwater: pastedown

The Library has the resources to select treatments for its interns specifically designed to challenge us and increase our skill set. I know my hand skills have improved, as well as my general knowledge of the field of conservation. I still have a lot to learn, however, and I am excited to approach each new treatment to see what it can teach me.



Preservation and Conservation Section

P&C News

P&C Member Contributions

Translations

Did you notice? The January and July 2008 issues were also available in Spanish from our website. (<http://www.ifla.org/VII/s19/index.htm>)

Would you be willing to provide a translation of our Newsletter? In the past, newsletters have been available in Russian and French. To volunteer your expertise, contact the newsletter editors.

P&C Section website

<http://www.ifla.org/VII/s19/index.htm>

And Into the Future....



World Library and Information
Congress:
76th IFLA General Conference and
Council
Brisbane, Australia, August 2010

P&C Standing Committee Members

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Preservation? – Two Cheers for Entropy (whilst Winding the Clock)

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1. Introduction

I have been asked to reflect on where preservation in libraries is coming from, where it is now, and where it might be going. Drawing heavily on my own context, experience, and perhaps idiosyncratic way of seeing things, I hope some trends will emerge that have wider relevance. I hope we can also have some fun along the way of making some serious points.

One caveat I am by nature a complicator. The antidote I usually apply to my long habit of juggling possibilities is to also declare the truth that for all its complexities, dilemmas, trends and counter-trends, preservation is a beautifully simple thing, a simple story: things tend to fall apart, and we try to slow down the falling apart. Things tend to become changed from what they were, and we try to help them hold onto their value and their usefulness.

We work for communities, however defined, that value what we care for; our job is to protect what they value.

There's much more to the story than that, but we should always remember there is a beautifully simple structure behind it.

2. Where is 'preservation' coming from?

So, where is preservation coming from, at least in the world of libraries?

Of course, this isn't just one question. It's a question about pasts, but it's also a question about "whys", and how well are we traveling.

Let's go to the fundamentals of why preservation is necessary, which we could express in a single word: entropy. I must admit that I'm using this word without much scientific rigor, but I still think it works. By "entropy" I just mean the tendency of things to fall apart.

As conservators and preservation managers, it's easy for us to slip into thinking that we are dealing with the results of a particular kind of negligence or vandalism on the part of our fellow humans – and sometimes we are – but as almost any survey of our environment will remind us, entropy is everywhere and is built into the world we live in. ¹

Entropy has been a subject of inquiry and concern for a long time. I'm going to refer to some literary responses to entropy that remind us that it's not just conservators who worry about it, get excited by it, work with it.

William Shakespeare got in on the act fairly early. He had a good idea of the principles of entropy.

SONNET 65

Since brass, nor stone, nor earth, nor boundless sea,
But sad mortality o'ersways their power,
How with this rage shall beauty hold a plea,
Whose action is no stronger than a flower?
O, how shall summer's honey breath hold out
Against the wrackful siege of batt'ring days,
When rocks impregnable are not so stout,
Nor gates of steel so strong, but Time decays?
O fearful meditation! Where, alack,
Shall Time's best jewel from Time's chest lie hid?
Or what strong hand can hold his swift foot back?
Or who his spoil of beauty can forbid?
O, none! unless this miracle have might,
That in black ink my love may still shine bright.

Of course, we have bad news for Mr. Shakespeare – his black ink, and all that it implies, also suffer from sad mortality and time's decay.

Entropy can be seen as a clock: as time passes, things tend to move from a more ordered to a less ordered state. In a closed system, without the input of further energy, this is the natural order of things.

What we are doing in preservation is inputting energy, which is a little like winding back the clock.

Entropy and books have fascinated me since childhood. When I was little, my mother had a cherished bookcase of old books, all yellowing and becoming brittle – these were my first reading materials. My own first treasured book was A. A. Milne's *Winnie the Pooh* in a fine red cover. The book was lent to someone who left it out in the rain; since then, the pages have been forever stained pink with the dye from the bookcloth. So from an early age I was on the look out for a universal law that said things must deteriorate and crumble.

Another of my key preservation texts offers something more like a conservator's response to entropy; as it was written by a famous doctor, I assume it must be scientifically sound.

In this story [by Dr. Seuss], the Cat in the Hat visits two children at home on a winter's day while their mother is out. Somehow, the Cat leaves a pink ring around the bath – a stain. And what a stain! To get rid of it, the Cat wipes it off with a towel, but then it's on the towel. In the course of trying to get the stain off various items and out of the house, he introduces 'Little Cat A', who lives in his striped hat. And in Little Cat A's hat lives Little Cat B, and so on.

All 25 Little Cats, one after the other, have a go at removing the stain and only manage to spread it further and further, until every speck of snow outside the house is pink. The Cat calls on his final hope, Little Cat Z.

He says: "Z is too small to see. So don't try. You can not. But Z is the cat who will clean up that spot!" Z doesn't have a cat in his hat. Instead, he has VOOM.

"Voom is so hard to get,
You never saw anything
Like it, I bet.
Why, Voom cleans up anything
Clean as can be!"

Then the Voom...
It went VOOM!
And, oh boy! What a VOOM!

Now, don't ask me what Voom is.
I never will know.
But, boy! Let me tell you
It DOES clean up snow!

I've always identified that as a core preservation text, and read it to my children in the vain hope that one of them might be inspired to become a conservator.

It's interesting to consider that over the decades when William Barrow and other pioneers were playing around with various chemical means of cleaning, protecting and supporting paper, they never seem to have studied Voom. But I imagine they often dreamed about it. The last of my apocryphal preservation texts is a movie. It is much more sophisticated than *The Cat in the Hat*, and takes account of developments in chemical treatments of cultural heritage objects, as well as modern reprographic techniques. For anyone who doesn't know it, a supposed art expert from London arrives at a gallery in California to launch a display of the painting *Whistler's Mother*. He manages to sneeze on the painting, wipes it with an ink-stained handkerchief, attempts to clean the ink off with lacquer thinner, with results you might expect, and eventually saves Western Art as we know it by quietly replacing the painting with a facsimile print. This innovative amateur restorer, of course, is Mr. Bean, and the text is subtitled *The Ultimate Disaster Movie*, which seems a little pessimistic given the generally

happy outcomes. The Mr. Bean movie might cause us to ponder what it is that cultural collecting institutions value, and what such institutions, include libraries, seek to preserve. The point is that preservation is not just about battling entropy. It is also about value. Mr. Bean's destruction of the painting would hardly matter if the painting didn't matter. Presumably we choose to preserve things because they are valued by someone. This begs some questions for preservation managers – valued by whom? How do they express their valuing? And how do we know about it?

There's an easy answer for those of us working in major collecting institutions – we preserve the things that were valued enough to be collected. Except that most of us have to work within resource constraints demanding that we choose to undertake some processes for some collection materials and not for others. We are forced to consider what is valued, and to consider what they are valued for.

Entropy is not simply the enemy that must be overcome. If entropy is a clock, the artifacts of entropy are history. They show up in the changed nature of objects over time, forcing us to decide what should be preserved and what should be removed. They also show up in the differential survival of objects that gives added preciousness to the survivors. So, I say it's two cheers for entropy – I can't raise any more, even though I am fascinated by it, and grateful that it keeps us all in work.

The NLA building blanketed by smoke haze during 2003 bushfires



credit: National Library of Australia

3. Where is 'preservation' now?

With the aim of getting a handle on how we understand preservation and how that understanding might have been changing over the years, I undertook a couple of small exercises in preparing for this talk.

The first involved looking through abstracts of articles in a couple of my favorite preservation-related periodical publications for the most extended period that I could: more than 30 years of *The Paper Conservator* from the UK and about 23 years of the *Book and Paper Group Annual* from the US. Both have wide international readership and contributions. I chose them ahead of other possible sources because they are more widely read by library and archives preservation managers in Australia, but I would be interested in whether these trends were also reflected more widely in preservation journals.

Trends that seemed noteworthy to me included:

- A consistent interest in physical treatments throughout the surveyed period – lots of articles.
- A decreasing focus on binding structures – they were a major interest in the 1970s and early 1980s, but have attracted very little attention since.
- Something of a bell curve of interest in chemical treatments – from the beginning there have been articles but they really reached a peak in the 1980s and 1990s, and there seems to have been a significantly reduced focus in recent years.
- From the early 1980s onwards, a booming interest in increasingly sophisticated analytical techniques.
- Quite consistent interest in materials and production processes for the objects that conservators work on and work with.
- I was surprised at how little reference there had been to what I would call collection management. From time to time articles have appeared about management of small special collections, but very little on management of whole collections or the issues involved.
- On the other hand, there was evidence of growing interest in display of library materials.
- Surprisingly little about disaster preparedness and response; or about documentation systems.
- ‘Digital’ made a late and isolated appearance in the early years of this decade; but it was hard to find any significant interest in copying as a preservation method (although I accept that this subject has been widely canvassed and debated in other forums).
- One might say the same for the preservation of digital information.
- Surprisingly, almost nothing on training, for staff, users, community, pre-entry professionals or mid-career.
- But it was pleasing to see that on special occasions, such as significant anniversaries, it has been common to include articles reflecting on professional practice, ethics, history and development of preservation.

Of course, it would be foolish to read too much into these apparent trends. The sample surveyed was very narrow and not representative of the full range of publications that library preservation people read or contribute to.

Processing digital data from a physical carrier to managed mass storage



credit: National Library of Australia

It has also been evident to me for many years that many preservation people don't write about what they do and don't seek publication. Those that do are presumably influenced in their choice of subjects by what they and their editors think will be interesting – but that is no sure guide to what is actually happening on the ground. Much of the daily activity of many conservators and preservation managers may appear to them to be routine and mundane, even though it may be the ongoing bread and butter of preservation.

I wondered whether blogs and discussion lists might offer a better reflection of the day to day stuff of preservation, but they also seemed to have their own self-selecting biases – as one might expect.

So the literature – the real preservation literature – gives us *some* ideas about the scope of preservation and its changing issues, but it is only a partial picture.

Another small exercise I undertook involved going back through old work plans and reports since I started working in the National Library in 1993 – again, looking for indicators of how things might have changed, especially in terms of what were seen as the big issues.

Like most preservation programs we examine and document things in our collections; we carry out a range of chemical and physical treatments; we repair books; we preserve sound recordings and have a developing digital preservation program. We provide special storage enclosures for fragile materials; we worry about the impact of storage and retrieval systems on collections; and we worry about environmental conditions; from time to time we worry about things like the Library being surrounded by smoke from bushfires; but more often we have to deal with small or not so small water events.

We try to engage with the community – we offer awareness and basic training for community organizations from all over the country. We have had very active preservation copying programs, previously focused on microfilming but more recently much more likely to involve digital imaging. We try to offer a national and regional training role when we are able to do so; and when we see common problems we aim to initiate national preservation strategies. And we try to encourage discussion and information sharing. Not all of these can be supported all the time.

So, what has changed in the way we do preservation at the NLA over the past 15 or so years?

I want to preface this part of the presentation by saying that, based on some unhappy experiences in the decades prior to this, we had already learnt some important lessons that are often not discussed. (We all need horror stories to remind us of the things that can go wrong; and we need some horror stories of

our own, for the sake of humility and compassion. But these aren't mine – they just formed an important part of my learning.)

These experiences involved external experts carrying out what had been considered standard conservation treatments to our collection treasures, which were later seen to have been highly damaging. From these vicarious – and mythologized – experiences, we took the following lessons:

- One should be careful about putting treasures in the hands of others, when you don't know what to ask for and you don't have enough knowledge to make sure you are getting it;
- Taking action involves risks – preservation decisions are so often exercises in weighing up the risks of competing options;
- 'Good' and 'bad' preservation depend on what you wanted, and that they are concepts that change over time. Although I have said things that are critical of the people involved, I don't really think they were doing anything out of the ordinary based on contemporary preservation assumptions;
- Even good people can do 'bad' things – by which I mean things that eventually come to be seen as bad;
- Bad things may be retrievable – but usually at a cost.

So much for the horror stories looking over my own 15 years at the National Library, there are some changes and trends that have been significant in terms of how we see preservation and how we do it. In no particular order, they include the following:

- We have seen a narrowing of our skills base for treatments, as more senior preservation staff have given priority to preventive measures. One solution we have used very successfully has been the part-time employment of a very experienced private conservator as trainer and mentor for our younger conservators.
- Like many others, we have seen burgeoning exhibitions and digitization programs really eat into our available resources for other kinds of preservation work.
- Over the past 15 years, we have virtually ceased routine bookbinding except for some outsourced priority work done mainly for security reasons. We have maintained an effective book conservation program all that time, but we are down to one binder in training, so this also looks like a danger for us that reflects a wider death of the bookbinding trade.
- There have been interesting changes in attitudes to environmental conditions during this period. At times it has looked like a battle to clarify and hold onto reasonable specifications. There has been considerable international discussion of how dry, how cool and how stable conditions should be. Anything that requires us to look closely at what we are trying to achieve, and at the basis of our assumptions, is to be welcomed.
- There has been increasing corporate buy-in to disaster preparedness. In 1993, this was seen as a Preservation obsession: it is now seen as part of a

'business continuity' model and is really owned by the Library's senior management and by our Corporate Services Division.

- When I came to the Library, we had a very active sound recording and sound preservation program, built around analogue tape. We quickly moved to both digital recording and conversion of our analogue collection to digital format. We faced a lot of challenges in doing that, but the most significant has been the realization that we could sustain our analogue playback equipment for no more than 15 years – anything not digitized within that time would almost certainly never be digitized. This has involved putting aside questions of personal taste and preferences, and dealing with the harsh realities of a disappearing access technology over which we have almost no control.
- In 1995 we decided to close down our preservation science function. It was a relatively easy decision to make, as our sole scientist was leaving and there was a sense that we had done enough materials analysis and needed to move on with resourcing things like a digital preservation program. It made sense then, and still does, but it has undoubtedly left us more dependent on the research of others. It does reflect a trend in Australian preservation practice to look for research support where and when we think we really need it, rather than maintaining our own research programs. I certainly have the impression from this conference that this is not an international trend.
- We have spent a long time pondering – and not using – mass treatment approaches such as mass deacidification, and have yet to convince ourselves about the size of the investments that appear to be needed. It's certainly not a closed issue for us.
- Permanent paper was a big issue for us in the early 1990s; I must say that we decided to let it hang for a while because paper being used in Australia seems to be pretty good.
- We've had national campaigns on cellulose nitrate, cellulose acetate, and deteriorating newspapers, as have most people.
- One of the biggest changes has been the rise of digitization and the imperative of sorting out its preservation role; and the rise and fall of preservation microfilming. In 1993, we were doing a lot of filming but had a long way to go in terms of understanding standards, let alone complying with them. Our quality control was weak, and there wasn't a shared understanding of what we were trying to achieve. Over the next decade we put a lot of effort into making our microfilming of a standard that we thought could support both preservation and access goals. And yet, by 2005 we had virtually ceased microfilming. This has had something to do with our increasing experience with digitization and our confidence in our digital preservation programs for these relatively straightforward. I will be very surprised if we take up microfilming again, even though we have continued to fund other libraries' microfilming programs in Australia.
- With regard to digitization, for the past 10 years there has been a hot debate about whether we were ready to accept digital copies as

preservation masters, and when we would actually choose them ahead of microfilm. This has resolved itself into more useful questions about what we want in preservation copies, whether digital or analogue. It also resolved into recognition that the answer must be tied to our willingness and ability to commit to a program of preserving the digital copies.

- The rise of digital preservation has been one of the NLA's major commitments over the past 12 or so years. I don't mean to say very much about it here. We have digital materials in virtually all collection areas, and in a wide range of forms that we collect or create ourselves. Some of the numbers are big – we are currently holding about 3.4 billion separate files from web harvests, for example. We jokingly have a motto for our digital preservation program, which says that we expect to be able to provide everything, for everyone, for ever!
- I want to briefly mention one other change, which is the imposition of an outputs funding model on all government funded bodies in Australia. This happened about 10 years ago, and it introduced the imperative of finding ways to measure and report on our performance – not just the inputs or the throughputs, but what needs to be achieved and how well we are doing it. While often a painful process, it's been an important change to focus on objectives and results, not just how many tasks have been completed for how many items.

NLA contract conservator Kerry McInnis removing degradation products from an artwork



National Library of Australia

nla.com-129-2-2-v

credit: National Library of Australia

4. *Some influences and some perceptions*

The roles of science and craft must surely be self-evident to even a casual observer, as keystones of modern preservation. Preservation passed through some kind of a doorway when conservators started wondering if they could understand why books deteriorate, and the chemical and physical nature of the materials and processes they were working with. The science has given us analytical tools, a platform for understanding deterioration of materials, treatment options, and a sense of security in taking action based on understanding what we are doing. It has also encouraged inputs from others who may not be particularly interested in the conservation of books, for example, but who are

very interested in the chemistry of paper, or the physics of light, or the natural history of pests.

The science has been a key feature of the development of a credible preservation profession in libraries and other cultural institutions in Australia.

On the other hand the craft element of preservation also remains important. I know this from years of observing a colleague at the NLA, who has a good scientific understanding, but what makes her an outstanding conservator is her feel for what she is working with and what needs to be done, and her acute observation of how things are going and how to read the signs. She has almost a sixth sense that distinguishes her as the true craftsperson. It is an important element that must continue to contribute to our preservation programs.

But I don't think these are enough to explain what I observe as the current approaches to library preservation. The other big element that came into our field of view in Australia in the early to mid 1980s, should be seen as a management perspective: an interest in managing big issues, in stepping back from a total focus on the individual treasured object and its treatment, in order to look at the context in which these focuses make sense.

There are other influences that shape the way preservation is. An obvious one is philosophy: by that I mean a system of values. This influences what resources get allocated to what ends, what we believe the nature and purpose of preservation to be, and what is seen as ethical or questionable behavior.

Our system of values, and our personal characteristics, often plays a big part in how our preservation programs are perceived by others.

Generally, I would say our preservation programs are valued and seen as important within our institutions. They are also seen as just one imperative amongst many. This is a reasonable call, so long as we have enough standing and credibility to be able to offer considered advice that is listened to and heard.

It has not always been that way in Australian libraries. I remember a time when, in the institution I worked in, we were known as the PIWCWASN: "People in White Coats Who Always Say 'No'". There were at least two negative outcomes from that. The first was a feeling amongst other staff that there was no point in asking Preservation – they would just say 'No', and complicate whatever you had to do. So it was better to avoid the issue unless you really couldn't avoid it. And if you really couldn't avoid it, you should come prepared for an argument.

The second negative was that people outside of Preservation saw themselves as outside of the organization's preservation program. It was easy to say: 'That's not my problem, that's something for Preservation to sort out. Don't expect me to

get involved – you deal with it.’ At the same time, people *inside* Preservation tended to see themselves as separate from the rest of the Library’s business.

The shift from ‘them’ to ‘us’ required some loosening of ideas that we thought made us special, as well as the conscious input of energy and ideas for change, on both sides. It also required the engendering of goodwill and a commitment to support other people’s objectives as far as we could without failing in our own responsibilities. Many more people now own a bit of preservation responsibility, and there is more cooperative energy when we don’t have to expend so much on battling our colleagues as well as entropy!

Interestingly, it is not a permanent, guaranteed change. I’ve noticed that individual personalities have a lot to do with people’s willingness to continue in this vein, and that it doesn’t take very long or very much for the trench tools to appear and for the barbed wire to come out, unless there is a genuine commitment to each other’s success as well as our own. I guess it reflects an underlying tension in collecting institutions that are committed to long-term preservation but also to making their collections as available as they can, all in an environment of limited resources and high expectations.

Another perception we have of ourselves is that we are always struggling, in two closely related but different ways. Struggling to secure the resources to do what needs to be done, but at the same time struggling to really know what needs to be done. Libraries are complex places: our collections cover a wide range of materials often managed with different imperatives. We have to remind ourselves from time to time that it’s important to invest resources in knowing what needs to be done. When we don’t make that investment, we find ourselves in the anomalous situation of believing there is too much to do whilst at the same time struggling to identify what is the next priority.

Dealing with a water leak in a collection storage area



credit: National Library of Australia

Overall, I think there is an impression within libraries that preservation programs are important and generally competently run, but sometimes not as responsive as others would like us to be. Because we sign up for the long haul, and play for the long-term stakes that are at the core of our institution's future business, we are often dealing with a different timetable for decisions. We want to make decisions that are right for decades and centuries, and with future users in mind, sometimes causing frustration for those who need a decision tomorrow about what should happen the next day.

It is good for our judgment to be questioned, for a community to challenge us to reflect and explain, and maybe to change our understanding. It causes us understandable anger and heartache when they do, as we saw earlier in this decade in debates over preservation microfilming of newspapers, but if we are preservation managers, rather than one track specialists, we have to accept responsibility for outcomes and for reconciling complex and sometimes hidden needs. Which means we have to listen to critical comment, even if we believe it to be unfair or misleading. Regardless of the blame game, we usually need to listen so we have a bigger idea of the forest we are managing, not just the trees before us.

It is in dealing with these constraints and challenges that other factors seem to me to be important. Preservation is very amenable to the three big disciplines I've mentioned – science, craft and management: they really “do” the work of preservation. But it also depends on personal factors. I have worked with preservation professionals who had good knowledge but lacked the imagination to ask themselves: “What if ...?” Imagination opens doors of possibility, cuts through assumptions, looks for better ways – sometimes just different ways. Imagination is just like biodiversity – it adds to the pool of possibilities (including feral possibilities, of course).

Preservation programs lacking in imagination often seem to be stuck with the problem I've just referred to: so much to do, so few ways into it. At a practical level, they also often fail to see the strategic picture and fail to envisage the risks in what they are doing. I'm not a very imaginative person myself; two of the most discomfiting people I have worked with have both been very imaginative people. When I have stifled or resented their imaginative input we achieved only small things. When I valued and encouraged their imagination, we achieved much more. This has taught me the difficult and uncomfortable lesson that it is better to work with diverse gifts than to look for a team who all see things exactly the same way.

Generally, I would encourage my staff to question everything on the way to establishing an agreed practical way of doing things, but I recognize there is often a tension between innovation and tradition, between asking questions and getting on with it on the basis of adequate if not perfect information. One sign of maturity we look for in new employees is an increasing ability to reconcile these

impulses, being able to develop a consistent and efficient approach without losing the ability to question and to think innovatively.

5. *Where might we be going?*

So, what can we say about the future of preservation? We have heard much over the past two days that points us in useful directions. It has been great to come from the other side of the world and to hear about the exciting research that is going on. For the moment, I'm going to stick with my thread of entropy and say: "It shouldn't be hard to predict the future!" Entropy can be expected to continue.

I expect that things will continue to deteriorate, and we will have to keep on dealing with that fact. But there may be some factors that mean the rules of the game will have to be adjusted.

Some of the more obvious potential new factors include:

- climate change
- a requirement to significantly reduce greenhouse gas emissions
- soaring energy costs
- the possibility of prolonged and deep economic recession
- a likely increase in angst over resource allocations within institutions.

It would be fair to say that they are all connected to each other, but they aren't necessarily dependent on each other.

It probably doesn't require a crystal ball to forecast that digital materials are going to be even more important, and that we can expect to have a range of tools that will help us in managing them. What may have interesting implications are the rise of what might be called "online storage", and the increasing interest in community annotation services which would allow users to play a more active role in influencing preservation decisions about priorities, and what in the digital preservation field we refer to as "significant properties": the elements of an object that must be maintained if it is to maintain its meaning and value.

What are some potential relevant impacts from changes like these?

One obvious implication is a likely increase in risk factors for library collections. Some libraries can expect to have to deal with more frequent disaster threats – storms, flooding, maybe bushfires. Some repository sites may become places where it is no longer viable to store collections. It's going to cost a lot more to provide cool, dry and stable storage conditions, and we simply may not have access to the required energy supplies even if we had the money. Some of us will have to deal with higher temperatures and humidity levels for at least part of the year – already a losing battle for some libraries.

How are we going to deal with impacts like these? Where the resources are available to do so, changing our storage repositories would make sense. Mass digitization programs presumably make offsite 'dead' storage more viable, allowing us to consider options that can take much greater advantage of passive climate control.

Presumably the scenario we're talking about also makes it more attractive to define our storage configurations more tightly, so we are only providing high cost conditions for the small core of collections that really needs or warrants them.

It will also lead many people to look more critically at what has been the orthodoxy of required conditions, and to look at other things we could do to slow deterioration rates in different storage conditions – heat and moisture are not the only drivers.

On the resources side, it may become more difficult to pay for specialist skills. In times of economic recession, staff costs generally plateau or decline, but this is not necessarily true for people with specialist skills. It is also likely that institutional budgets will be cut, so there may be far greater competition amongst programs for whatever is available. In such an environment, there may be irresistible pressure to change the direction of preservation action. There are curatorial and business decisions involved in defining how long collections have to be kept and in what form. It is conceivable that digitization will be adopted in some institutional settings as the only required form of preservation.

Challenges like these imply a greater communication effort, perhaps some hard decisions for preservation managers about how far they are willing to support corporately decided changes in direction. They might also lead us to renew programs that make good use of non-specialist staff.

A few years ago I wondered whether we would see a rationalization of library collections, with fewer libraries having a collection management role. We can see the seeds of this in consortial storage and access programs. Taken to a logical extreme it implies a far more critical preservation role for the libraries that still store collections, and much greater accountability for looking after the collections they hold.

Of course, we could take this scenario further. The availability of mass online storage, plus mass digitization programs, and a ready commercial market for rare books, could mean that the library as we know it has almost no future at all, except as a group of people paid to provide consistent, high quality categorization of online information via something like Web 2.0 applications, making preservation someone else's business.

This is all a bit cosmic. What's likely to change in my own preservation programs in a much shorter timeframe?

Some of what we've talked about will have impacts on the ground. I would expect negotiations on energy requirements for collection storage to get underway very soon, if they aren't happening already. I would also expect that anyone who has avoided decisions about the role of digitization in preserving collections won't be able to do so much longer. Likewise, if we haven't been thinking about how to manage the long term preservation of the digital resources we create, we will need to start very soon.

And if there are new decisions to be made, we will need better tools for making those decisions. We can expect some of the decisions to be in the area of re-defining what is acceptable preservation and what is not.

While the idea of preservation seems to be about constancy and permanency, in fact, it has always involved changing ideas of what is important, what is desirable, what is acceptable, and of the realities that have to be taken into account.

All of which makes it very tempting to go back to good old entropy, and the conservator's eternal search for the wonder cure-all, Voom!

Thank you.

Footnote 1:

For example, a look through the 'Entropy' theme on the website of the photography magazine *JPG Mag*, provides a suitably depressing illustration. <http://www.jpgmag.com/themes/4>